

Abstracts

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their trust on quality (better medical cares, drugs and equipments), and also doctors may use cost-saving strategies such as continuous prescriptions to help them. **CONCLUSIONS:** The attributes for GERD outpatients' choices of accessing medical facilities have been identified. Participants with different socioeconomic backgrounds in Southern Taiwan are aware of the increasing OPP, but the current OPP does not seem to impact on the affordability and accessibility of treatment. Future study is going to determine the relative importance of attributes and how different OPP can influence on decision making.

PGI17

EXAMINATION OF PROTON PUMP INHIBITOR (PPI) UTILIZATION AMONG GASTROESOPHAGEAL REFLUX (GERD) PATIENTS USING ELECTRONIC MEDICAL RECORDS (EMR)

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OBJECTIVES: To examine PPI utilization among patients with non-erosive GERD (NERD), erosive esophagitis (EE) and Barrett's esophagus (BE). **METHODS:** We conducted an observational cohort study using EMRs obtained from a fully integrated health delivery system located in the mid-Atlantic region of the US. Incident cases of BE, EE, and NERD were identified between July 1, 2004–January 25, 2007. Patients were required to have encounter data for 6 months before and 12 months following their index diagnosis. Frequency of PPI use, time to PPI initiation, dosing frequency, and switching patterns among the three cohorts at 52 weeks post diagnosis were compared using NERD as the reference group. **RESULTS:** 12,273 patients met the inclusion criteria and included 79.6% NERD, 17.9% EE and 2.3% BE patients. A higher proportion of NERD and EE patients received a PPI as their initial pharmacologic therapy (90.5% and 92.2%; $p = 0.0140$) compared to 70.5% ($p < 0.0001$) of BE patients. Greater than 90% of NERD and EE ($p < 0.0001$) patients started initial PPI therapy within 8 weeks post diagnosis compared to 71.6% ($p < 0.0001$) of BE patients. Majority of patients were prescribed once daily PPI therapy [NERD 79.4%; BE 68.2% ($p < 0.0001$); EE 73.6% ($p < 0.0001$)] with a substantial proportion of patients on twice daily therapy [NERD 12.3%; BE 31.3% ($p < 0.0001$); EE 15.2% ($p = 0.0003$)]. Switching among initial PPI therapy occurred more often within BE patients (14.4%; $p = 0.0083$) as compared to NERD and EE patients (9.0%, 9.3%; $p = 0.6896$). There were no significant differences in patients reducing their PPI frequency from twice daily to once daily therapy (NERD 24.5%, BE 18.5%, EE 25.7%). **CONCLUSIONS:** A substantial proportion of patients with GERD are on twice daily PPI regimen. Switching between various PPI agents is common among GERD patients. Future research should focus on the clinical and economic implications of twice daily PPI use and switching among PPIs.

PGI18

EXAMINING PROTON PUMP INHIBITOR (PPI) TREATMENT PATTERNS AMONG PATIENTS WITH SELECTED UPPER GASTROINTESTINAL CONDITIONS

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OBJECTIVES: To retrospectively examine patterns of PPI treatment in commercially insured adults (≥ 18 years of age) with selected upper gastrointestinal conditions. **METHODS:** Patients were selected if they were newly dispensed a PPI in 2003 or 2004 (first PPI claim is "index date") and were continuously enrolled in the 12 months pre- and post-index. Based on ICD-9 CM diagnosis codes, four disease cohorts were constructed: GERD, GERD-like symptoms (787.1), Erosive Esophagitis (EE), and Barrett's Esophagus (BE). Post-index length of treatment (LOT) was estimated as the cumulative days of index PPI therapy dispensed. Patients were considered "adherent" if the medication possession ratio (LOT/365 days) was $\geq 80\%$. Discontinuation of PPI medication was defined as 90+ days without available treatment. PPI adherence, discontinuation and LOT were compared between the four subgroups. **RESULTS:** The study population included 138,598 patients (91.7% GERD; 1.6% GERD-like symptoms; 4.1% EE; 2.7% BE). Mean (SD) number of refills of index PPI for patients with GERD-like symptoms, GERD, EE and BE were 2.9 (3.3), 3.2 (3.4), 4.1 (3.6) and 4.2 (3.6), respectively ($p < 0.01$). LOT was significantly ($p < 0.01$) longer for BE [197.4 days (120.9)], EE [194.9 (121.4)], and GERD patients [154.3 (116.6)] compared to patients with GERD-like symptoms [142.9 (115.8)]. There were significant differences ($p < 0.01$) in adherence to index PPI between BE patients (33.2%), EE patients (32.7%), GERD patients (20.7%), and patients with GERD-like symptoms (18.8%). During the study period, a higher proportion of patients with GERD-like symptoms (63.6%, $p < 0.01$), GERD (58.2%, $p < 0.01$) and EE (40.3%, $p = 0.04$) discontinued PPI treatment compared with BE patients (37.9%). **CONCLUSIONS:** Patients with BE and EE, generally considered as a more severe form of GERD, showed higher adherence with and lower discontinuation of PPI treatment compared to patients with GERD and GERD-like symptoms. Additional studies of the clinical and economic implications of discontinuing PPI treatment should be conducted.

REDUCING MEDICAL COSTS THROUGH PREVENTING LABORATORY ERRORS: AN EVALUATION OF BAYESIAN NETWORK MODEL IN DETECTING ERRORS OF LIVER ENZYME LAB VALUES

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OBJECTIVES: Medical errors are a major problem in the United States. The Institute of Medicine estimates that medical errors cost the U.S. approximately \$37.6 billion, of which \$17 billion are preventable. Our objectives are to develop a Bayesian network (BN) model to detect value errors in blood lab and to compare performance of our model with an existing automated ruled-based approach (LabRespond), and a logistic regression model. **METHODS:** The sample consisted of 5800 observations from the National Health and Nutrition Examination Survey dataset. The performance was assessed by the area under the receiver-operating characteristics curves (AUCs) using a 10-fold cross validation methodology. Small, medium, and large errors were randomly generated and added to liver enzymes (AST, ALT, and LDH). The outcome of interest was the correct detection of liver enzymes as "error" or "normal." In BN, the outcome was predicted by exploiting probabilistic relationships among AST, ALT, LDH, and gender. Addition to AST, ALT, LDH, and gender, LabRespond required more analyte information (GGT, ALP, and total bilirubin) to achieve optimal prediction. For the Logistic model, the model was determined by stepwise selection among analytes that were significant at $\alpha < 0.05$. **RESULTS:** The BN was predictive of added errors with small [AUC = 0.644 (0.023)], medium [AUC = 0.787 (0.019)], and large [AUC = 0.903 (0.013)] error sizes; and performed significantly better than LabRespond [$z = 1.99$ ($p < 0.05$), $z = 2.77$ ($p < 0.01$), and $z = 4.57$ ($p < 0.001$), respectively] and the logistic model [$z = 1.71$ ($p < 0.05$), $z = 5.28$ ($p < 0.001$), and $z = 8.87$ ($p < 0.001$), respectively]. **CONCLUSIONS:** A BN model detects errors better and with less information than existing automated models, suggesting that Bayesian model can be an effective means for reducing medical costs in the laboratory

PGI20

CLINICAL OUTCOMES AND PATTERNS OF CARE IN PATIENTS WITH CHRONIC LIVER DISEASE, BRIDGING FIBROSIS, AND CIRRHOSIS: ADAPTABLE METHODOLOGIES FOR THE DESIGN, IMPLEMENTATION AND CONDUCT OF MULTI-NATIONAL, RETROSPECTIVE CHART REVIEW STUDIES

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OBJECTIVES: Retrospective chart review data can be important inputs to economic models or other burden of illness evaluations. Traditional paper-based approaches and local site monitoring can be cost and time prohibitive. A case study of an efficient, adaptable design and electronic data capture methodology for the collection of multi-national clinical, and resource utilization chart data is presented. **METHODS:** A retrospective chart review study of patients with CLD, bridging fibrosis, and cirrhosis from 10 liver centers (7 US; 3 EU) was conducted (eligibility period = 6/1/04 to 5/31/06; study period = minimum of 12 months). Demographics, clinical and health economic data were collected. All potentially eligible patients were identified by the sites, but the final random selection of the target cohort and its disposition was controlled centrally through a web-based tool. **RESULTS:** Data from 864 patient charts (62.8% male; mean age 52.3 years) were abstracted over one year. Data abstraction spanned 22 to 52 weeks depending on the site and its resources. The standardized eCRF worked well for the capture of multi-national data. Quality was maintained by electronic validation rules applied at the point of data entry and shown by data completeness and a minimum of data queries. Database lock was achieved in less than three weeks following the last data entry. Remote training of data abstractors by WebEx proved efficient. Data have been used successfully to inform clinical trial design and to estimate the cost of illness. Main challenges included timely contracting of sites, the need for site-specific algorithms to identify charts, and analytical methods tailored to naturalistic data. **CONCLUSIONS:** A well designed CRF and web-based cohort control and data capture tool can provide a practical and efficient means of collecting high quality, multi-national outcomes data without the need for costly site visits and local monitoring.

PGI21

ASSESSMENT OF THE EFFECTIVENESS OF "AFFINEX FLAT STOMACH" AFTER 14 DAYS OF TREATMENT

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OBJECTIVES: Since it houses the digestive system, the least sign of digestive problems shows up in the stomach. Fermentation, carbonated drinks, air swallowed while eating, constipation... but also stress or strong emotions: it becomes painful and bloated. Evaluate the benefit of using "affinex flat stomach" as part of a weight loss regime. **METHODS:** Prospective pragmatic evaluation under real-life conditions. The pharmacist gave a double questionnaire along with the product to all adult female customers who had started (or were about to start) a weight loss regimen and who asked the pharmacy for help or advice. **TOOLS** Validated questionnaires were used (SF 12 and BISS (Body Index States Scale)). Moreover, waist measurement and symptoms were assessed and organized in a single score (Pain, Bloating, Belching, Spasm, Transit problems, Flatulence and Nausea). **RESULTS:** A total of 178 female subjects included, age: 40.8 ± 12.3 years with an average BMI of 23.5 ± 3.8 kg/m², the score of the symptoms was 146. With regards to QoL scales, the average scores on inclusion